

Results: medium-load exercise lasting six weeks caused the noticing increase of SOD density in serum of lab rats. ($P<0.05$) and decrease of MDA density in serum ($P<0.05$). Six weeks of heavy load exercise caused an increase of SOD density in serum ($P<0.05$), decrease of MDA density in serum ($P<0.05$); small-load exercise lasting six weeks caused a tendency that SOD and MDA will decrease but there is no subtle differences. 105dB noise can induce behavioral change of lab rat, decrease of SOD density in serum, increase of MDA density that is the product of relieving free radical; After four weeks of small and medium-sized continuous exercise and then two weeks to be stimulated by the 105dB noise, lab rats with small and medium-sized exercise's SOD concentration and MDA concentration have no significant differences comparing with a single movement group. The possible reason is small and medium-load exercise training lasting six weeks can improve the body's anti-oxidant capacity, immunity, self-regulation. After four weeks of heavy-sized continuous exercise and then two weeks to be stimulated by the 105dB noise, there is a significant decrease of SOD density ($P<0.01$) and a increase of MDA density ($P<0.01$).

Conclusions: The results of this thesis suggest that small and medium-load exercise training can effectively overcome the noise stress on the body antioxidant, immune suppression, and the middle-load exercise has more effective intervention on the role of noise stress.

Cardiovascular-Disciplinary Research

Community-Based Management of Cardiovascular Disease

GW25-e2276

The preliminary analysis of the effect of standardized community-based management on hypertension in urban and suburban areas of Baotou

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Objectives: To investigate the effect of standardized hypertensive management (hypertensive management according to the levels of risk factors for cardiovascular diseases) on treatment and control rate, and cardiovascular risk profiles in urban and suburban communities.

Methods: We recruited 2653 hypertensives (among them, 1918 were from urban areas, while 735 patients were from suburban areas) registered in the 85 primary hospitals and community clinics located in Baotou from Jun 2009 to Dec 2011. All subjects were divided into low-risk (292 cases), moderate risk (980 cases), and high risk (1381 cases) levels of management according to cardiovascular risks. Specially trained primary medical staff was put in to charge to establish medical files, provide regular health education, monitor blood pressure and other related risk factors, as well as make appropriate treatment protocols for patients.

Results: 1. Of all subjects, 2502 subjects (aged 62.9 ± 7.3) have been followed up for average 25 ± 1.1 months, among them, 1816 from urban, 686 from suburban. 2. The systolic blood pressure (SBP) of all the subjects has decreased by 6.7 mmHg in average, while the diastolic blood pressure (DBP) has decreased by 3.7 mmHg. Compared with urban hypertensive subjects, the SBP and DBP of suburban hypertensives have decreased more significantly (6.6 mmHg, and 3.4 mmHg vs 7.8 mmHg, 4.6 mmHg). In average the treatment rate of all the subjects has increased from 62.6% to 88.6% before and after the study, while their hypertension control rate has increased from 18.0% to 53.0% before and after the study. Both parameters have increased by 26.0% and 35.0% respectively and have a statistical significance ($P<0.01$). Compared with urban subjects, hypertension treatment and control rate of suburban hypertensive subjects have increased more significantly (20.9%, 32.9% vs 39.5%, 40.5%). 3. Compared with previous hypertensive management, risk factors such as overweight, tobacco smoking, alcohol drinking of the hypertensive population under management have decreased in various degrees, which showed a statistical significance ($P<0.01$); however the change of high-salt diet in the hypertensive population has not shown statistical difference. Compared with hypertensives from urban, smoking and drinking rate have decreased more apparently (11.8%, 3.2% vs 12.6%, 3.8%) than which in patients from suburban. 4 After reevaluating the profiles of their cardiovascular risks, we found that the overall level of their risks was lower than the baseline. The percentage of subjects with low risk factors has increased from 11.0% to 16.1%, while subjects with moderate risk factors has decreased from 36.9% to 35.7%, and the subjects with high risk factors has decreased from 52.1% to 48.2%, ($P<0.05$).

Conclusions: Blood pressure of hypertensive patients could be better controlled by using standardized management. In this way, we could decrease cardiovascular risk, overall risk levels and increased treatment and control rate of hypertensive population. Patients' health education and standardized management are the main ways to improve treatment rate and control rate of hypertensive patients. The effect of standardized management on hypertension is more effective in suburban communities than which in urban communities.

GW25-e1065

Validity and reliability of a Chinese version of Eight-item Morisky Medication Adherence Scale in hypertensive adults

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Objectives: The study aims to validate the Chinese version of the eight-item Morisky Medication Adherence Scale (MMAS-8) in a sample of Chinese community-dwelling patients with hypertension.

Methods: A standard 'forward-backward' procedure of translation was used to translate the English version MMAS-8 into Chinese. The translated version was used in a cross-sectional descriptive survey conducted in a convenience sample of community patients with hypertension in Beijing, China, between December 2012 and April 2013. The scale scores ranged from 0-8, with higher scores indicating better medication adherence. Reliability was assessed using Cronbach's alpha for internal consistency. Construct validity was examined using factor analysis. Three levels of adherence were considered based on the following scores: 0 to <6 (low); 6 to <8 (medium); 8 (high).

Results: 2908 patients were recruited. The mean age of participants was 60.62 years ($SD=9.14$), 61.5 % (1834/2980) were women. The mean score for the medication adherence scale was 6.46 ($SD=1.69$). Moderate internal consistency was found (Cronbach's alpha was 0.687 and Guttman Split-Half reliability was 0.653). Factor analysis was employed to examine the construction validity. The common factor was identified to explain the total variance of 45.52%, and the factor loadings of the eight measured variables were from 0.233 to 0.560. 25.6%, 39.7%, and 34.7% of patients had low, medium, and high adherence, respectively.

Conclusions: The findings of this validation study indicate that the Chinese version of the MMAS is a reliable and valid measure of medication adherence which can now be used. The MMAS-8 could still be used in routine care to support communication about the medication-taking behavior in hypertensive patients.

GW25-e0146

Analysis of Blood Pressure in the Elderly Aged, 80 and over

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Objectives: To investigate the characteristics of casual blood pressure (CBP), 24 hours ambulatory blood pressure (ABP), and the prevalences of normal blood pressure, white coat hypertension (WCH), masked hypertension (MH) and sustained hypertensive state (SHT) in elders aged, 80 and over.

Methods: Health questionnaire, CBP, 24 hours ABP monitoring and routine clinical biochemical tests were conducted in 100 subjects aged 82.4 ± 2.7 yrs (63% males) selected randomly from two communities. According to the standards of 2010 Chinese Guidelines for the Management of Hypertension, the subjects were divided into four groups: normotensive, WCH, MH and SHT groups. Data were treated by ABP database system and analyzed by SPSS 20.0 including conventional statistical methods.

Results: (1) 82% of subjects were hypertensive, among them 36.6% (30/82) were found hypertensive by present ABP monitoring and 46.3% (38/82) were under anti-hypertensive medication. (2) The prevalences of normotension, WCH, MH, and SHT were 15%, 13%, 31%, and 41%, respectively. (3) Parameters of ABP: there was no significant difference between WCH and normotensives groups ($P>0.05$); MH and SHT groups had significant higher means of SBP/DBP/PP, BP load and lower nocturnal BP decline rate when compared to WCH and normotensive groups ($P<0.01$ or 0.05); SHT group had significant higher means of SBP/PP and SBP load than that of MH group ($P<0.01$ or 0.05). (4) In the study population, 72% were found nighttime hypertensive and ABP pattern of 78% was non-dipper.

Conclusions: Hypertension was the most prevalent diseases in present study subjects. Nocturnal hypertensive and non-dipper pattern of ABP were found in most of the elders. It suggested that ABP monitoring is important for the correct diagnosis of hypertension in the elders.

General Medicine and Chronic Disease Management

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Differences of blood homocysteine level and atherosclerosis-related factors between rheumatoid arthritis and osteoarthritis

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Objectives: Homocysteine(Hcy) levels are considered as an independent marker of cardiovascular risk, the initiation factor and results of autoimmune